

REMARKS

Status of the claims

With entry of the instant amendment claims 15 and 30 have been amended and new claims 43 and 44 have been added. Claims 15, 17, 22-30, 32, and 34-44 are therefore pending.

The amendments add no new matter and are supported throughout the application as filed. Claims 15 and 30 have been amended to recite at least 75% identity to the respective reference sequences. The claims as amended have previously been under examination and have been twice rejection..

New claims 43 and 44 recite at least 85% identity to the respective reference sequences. These claims correspond to previous claims 20 and 33 that were previously under examination and to claims 15 and 30 prior to entry of the present amendment.

Rejection

The current claims are rejected (or have previously been rejected) for alleged lack of enablement. In response to Applicants' additional arguments and the Rule 1.132 Declaration by Yan Wang, Ph.D. submitted with Applicants' response filed July 5, 2007, the Examiner reiterates the allegation that point mutations can effect Sso7d binding activity at various levels. The Examiner further emphasizes his position that Applicants have not sufficiently shown "how" double-stranded DNA (dsDNA) binding activity and the ability to enhance processivity of a polymerase are related. In particular, the Examiner acknowledges that "while the art teaches an association between dsDNA binding activity and the ability to increase the processivity of an associated polymerase polypeptide" (page 8 of the Office Action of November 2, 2007), the claims are not enabled because further studies are needed to "identify the optimal range of affinities of the dsDNA binding protein to achieve the ultimate balance between processivity and catalysis" (page 6 of the Office Action). Applicants continue to traverse this rejection for reasons of record. In brief, Applicants have provided sufficient guidance in the specification for identifying members of the claimed genus for use in the invention.

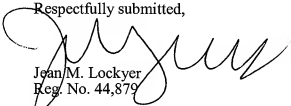
The examples in the specification show that both Sac7d and Sso7d work in the claimed invention. These two proteins, relative to one another, are two of the most divergent members of the naturally occurring family members (see, e.g., section 7 of the Vander Horn Declaration previously of record in this application). As previously explained, there is extensive information in the art at the time of Applicants' invention regarding structure/function analysis of Sac7d and Sso7d that can be used by the skilled artisan to reasonably predict the effects of amino acid changes on function. Furthermore, the cited art provides further evidence that dsDNA binding activity correlates with the ability to enhance porcessivity. It is well-settled in the biotechnology art that routine screening of even large numbers of samples is not undue experimentation when a probability of success exists. (*In re Wands*, 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988). Here, the likelihood of success exists. In view of the foregoing and the arguments previously of record in this application, the claims are fully enabled.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,


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